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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/782,741	02/19/2004	Patrick J. Sercel	JPSA 001	1664
32047 7590 02/28/2007 GROSSMAN, TUCKER, PERREAULT & PFLEGER, PLLC 55 SOUTH COMMERICAL STREET MANCHESTER, NH 03101			EXAMINER ELVE, MARIA ALEXANDRA	
			ART UNIT	PAPER NUMBER
			1725	
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		02/28/2007	PAPER	

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

## Office Action Summary

Application No.

10/782,741

Applicant(s)

SERCEL ET AL.

Examiner

M. Alexandra Elve

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 05 January 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-14, 16, 17, 19, 20 and 41-49 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14, 16, 17, 19, 20 and 41-49 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 February 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 2/7/07.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- ☐ Notice of Informal Patent Application
- ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 5, 7-10, 16-17, 19-20 & 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over MacAnally et al. (USPN 4,752,922) and in view of Yamanaka (USPN 6,266,302).

MacAnally et al. discloses a laser system having an astigmatic focusing system, collimation and expansion of the beam(s), the use of a collimator telescope, lens and the formation of multiple focal points.

MacAnally et al. does not specifically teach convergence.

Yamanaka discloses an optical device, which uses an astigmatic element placed in a convergent optical system for focusing the beam and emitting an astigmatic beam.

It would have been obvious to one of ordinary skill in the art at the time of the invention to use convergence as taught by Yamanaka in the MacAnally et al. process because it fully tailors the beam and hence optimizes the cutting area.

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Claims 2-4, 11-12 & 46-47 are rejected under 35 U.S.C. 103(a) as being unpatentable over MacAnally et al. and Yamanaka, as stated above and further in view of Liu et al. (USPN 6,580,054).

MacAnally et al. and Yamanaka do not teach a solid-state laser, UV, pulse durations or the processing of a sapphire substrate.

Liu et al. discloses a process for scribing sapphire substrates using a solid-state laser, which emits UV pulses. GaN is manufactured on the sapphire surface. Laser pulses of 10 to 30 nanoseconds, with a spot size of 5 to 25 microns are used to process the substrate. Grooves of about 40 microns are cut into the substrate and debris is removed using an exhaust system.

It would have been obvious to one of ordinary skill in the art at the time of the invention to use sapphire, a solid state UV laser and noted the pulse durations, as taught by Liu et al. in the MacAnally et al. and Yamanaka process because these are merely variations of laser types and the recording of data and parameters, in order to characterize the process operation.

Claims 6 & 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over MacAnally et al. and Yamanaka, as stated in the above paragraph and further in view of Snyder (USPN 5,181,224).

MacAnally et al. and Yamanaka do not teach the type of lens in the system.

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Snyder discloses a laser system, which works with astigmatism features in laser processing. Plano convex and convex-concave devices are used to collimate the laser beam.

It would have been obvious to one of ordinary skill in the art at the time of the invention to use plano convex and concave devices, as taught by Snyder in the MacAnally et al., Yamanaka and Liu et al. processing because these are merely apparatus variants.

Claims 13-14, 41-43 & 48-49 are rejected under 35 U.S.C. 103(a) as being unpatentable over MacAnally et al. and Yamanaka, as stated in the above paragraph and further in view of Iwasaki (USPN 6,881,529),

MacAnally et al. and Yamanaka do not teach the semiconductor material, the metallic (Mo or Cu) or the use of surfactant or glycerin.

Iwasaki discloses the laser ablation of a semiconductor material (thin film transistors) having a thermoplastic resin layer. The transistor has Mo gates and the layer contains surfactant and glycerin.

It would have been obvious to one of ordinary skill in the art at the time of the invention to use laser ablation of semiconductor materials with Mo and surfactant and glycerin because it is a variation of the materials.

***Response to Arguments***

Applicant's arguments filed 1/5/07 have been fully considered but they are not persuasive.

Applicant argues that MacAnally and Yamanaka et al. are not analogous art and hence cannot be used for a rejection. The examiner respectfully disagrees because the references are drawn to the laser ablation of an optical storage material, which is typically a silicon wafer. A silicon wafer in turn is the substrate of many/most semiconductor devices. The references are directed to the ablation of the same material and hence are analogous art.

Applicant argues that ablation of an optical disk will destroy it. The examiner respectfully disagrees because ablation does not have to mean fully etching through the disk. In fact writing on an optical disk entails forming a pit using ablation.

Applicant argues that Liu et al. fails to teach an astigmatic beam spot. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Applicant argues that MacAnally uses an astigmatic beam only for reading the optical disk. The examiner respectfully disagrees because MacAnally discloses reading and writing on an optical disk.

Applicant argues that Yamanaka et al. uses the astigmatic beam for alternate purposes. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

### ***Conclusion***


Any inquiry concerning this communication or earlier communications from the examiner should be directed to M. Alexandra Elve whose telephone number is 571-272-1173. The examiner can normally be reached on 6:30-3:00 Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick J. Ryan can be reached on 571-272-1173. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

February 17, 2007.

A handwritten signature in black ink, appearing to read 'M. Elve', with a long horizontal stroke extending to the right.

M. Alexandra Elve  
Primary Examiner 1725